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► **To cite this version:**

Harshit Kumar Singh, Sanjay Verma. Understanding the Challenges of Mandatory Telework Adoption and Its Effect on Employee Engagement. International Working Conference on Transfer and Diffusion of IT (TDIT), Dec 2020, Tiruchirappalli, India. pp.626-637, 10.1007/978-3-030-64861-9_54 . hal-03744778

HAL Id: hal-03744778

<https://inria.hal.science/hal-03744778>

Submitted on 3 Aug 2022

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Understanding the challenges of mandatory telework adoption and its effect on employee engagement

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Abstract. Telework is increasingly becoming more prevalent over the last few decades. Mandatory teleworking is an unforeseeable side-effect of the recent pandemic. Managers and employees are inexperienced in handling large scale adoption of telework. The challenges of these implementations need to be explored in detail to develop counter-strategies. The study collected data from 231 managers across industries on these challenges and their effects through an online survey. These managers are part of active teleworking teams. We find that the challenges present by the large-scale mandatory telework affect employees' perceived autonomy, which subsequently increases the work monotonicity. This has an adverse effect on the work engagement of employees in organizations. A framework detailing the challenges and its outcomes has been presented and empirically tested as part of this research initiative.

Keywords: Telework, Autonomy, Employee Engagement.

1 Introduction

Telework, also referred to as telecommuting, or commonly known as work-from-home, has been adopted by organizations worldwide due to the recent pandemic. It is a work practice where employees of an organization do not physically travel to the work location but use technology as a medium to work remotely with virtual presence (Nilles, 1991). Although the last two decades have seen a plethora of research on telework, its implementation on this scale has not been analyzed in the extant literature. Further, the abrupt and mandatory nature of the adoption further differentiates the current implementations of telework from earlier.

Well-functioning organizations are often constrained in their ability to adapt to a change in work practices. The adoption of telework on a bigger scale has traditionally been a challenge (Silva, 2019). The outlook of non-adopters towards telework has been non-aspirational, which acted as a barrier to the introduction of the process itself (Illegems and Verbeke, 2004). Such organizations are inexperienced in handling the sudden shift towards telework, which presents a new set of challenges for them. Even for organizations that were able to adopt teleworking on some scale, the research has found a mixture of positive and negative outcomes of telework in organizations

(Chung and Van der Horst, 2018; Martin and MacDonnell, 2012; Steward, 2000; de Vries et al., 2019).

In this paper, we explore how this sudden shift towards telework on a large scale has affected employees' engagement levels. There are three aspects in which the current research contributes to the literature on telework. First, we explore the challenges that teleworkers face while experiencing a large scale implementation of the practice. Although present in the literature, these challenges have not been explored on this scale of telework. Second, the abrupt nature of the telework implementation across organizations helps in understanding the psychological and behavioral effects of these challenges on the employees in its raw form. Third, the mandatory nature of the telework in this context provides us the opportunity to study these effects across industries. We call this telework implementation mandatory as the organizations across the world have no other option than implementing telework if they are to continue operating in this scenario.

To understand the effect of telework on engagement, we analyze the change in employees' autonomy support due to telework implementations. Autonomy is considered to be one of the primary psychological needs that affect employees' motivation at the workplace (Deci and Ryan, 2010). It is defined as the perception of having control over one's actions. A lack of autonomy can have a detrimental effect on the engagement levels of employees in the workplace. We further argue that an increase in work monotonicity mediates this decrease in engagement levels. A lack of autonomy is expected to result in work monotonicity (Loukidou et al., 2009). Telework can have an indirect relation with work monotonicity through stress and anxiety (Tavares, 2017).

To conclude, we explore the challenges that employees face while teleworking and the effect of these challenges on employee engagement through the changes in autonomy support, and monotonicity. We present a framework that details the relationship between these challenges to understand them better and to prepare countermeasures.

2 Literature Review and Hypotheses formation

2.1 Employee engagement and Telework

Employee engagement is a crucial part of any organization. Some of the direct benefits of an engaged employee include job satisfaction, organizational commitment, employee retention, and an increase in organizational citizenship behaviour (Saks, 2006). These factors directly affect the employees' productivity and efficiency, which in turn affect the business output of any organization (Harter, Schmidt, and Hayes, 2002).

Telework has seen mixed results in terms of its effect on employee engagement. Studies have shown negative (Sardeshmukh et al., 2013), positive (Demerouti et al., 2014), and no effect (de Vries et al., 2019) of telework on employee engagement. We explore how the psychological outcome of the lack of autonomy in the form of work-

monotonicity transfers to behavioural outcomes through engagement. We believe that exploring these mediating variables will shed a better light on the effect of telework on employee engagement.

2.2 Challenges of teleworking

Telework has been an area of active research, but it has not seen a very active adoption in organizations, as shown by research initiatives periodically (Atkin and Lau, 2007; Martin and MacDonnell, 2012; Silva, 2019). The primary barriers that inhibit the adoption of the practice are discussed in the section.

Availability of Time as a resource. Lack of time as a resource and its management is one of the primary challenges of telework. The employees are often expected to work beyond the official working hours (Abendroth and Reimann, 2018). A common outcome of this is overwork and long work hours while teleworking (Pinsonneault and Boisvert, 2001). This leads to stress, fatigue, sleeping problems, anxiety, and a reduction in the number of work-breaks, which affects the functioning of employees (Tavares, 2017). Often, the time saved from traveling while teleworking goes into the work-hours, increasing the work-load further (Quoquab and Malik 2013). Time-planning becomes an essential skill, and lack of freedom of time-planning directly affects the autonomy of workers (Nakrošienė et al., 2019). We hypothesize that this lack of availability time and loss of control over work induces a sense of autonomy loss for the employees, which gives us our first hypothesis:

H1: Availability of time resource will be positively related to the perceived autonomy of employees.

Communication Satisfaction. Another major challenge while teleworking is the lack of face-to-face communication (Greer and Payne, 2014), which presents its own set of challenges in terms of communications and collaborations.

First, team managers' direct supervision becomes difficult while teleworking (Quoquab and Malik 2013), which induces a loss of control for teams whose functioning depends on collaborations. Second, lack of physical cues and in-person interaction while communicating virtually causes increased misunderstandings between team members and can also lead to depletion of trust over time (Nandhakumar and Baskerville, 2006). Third, communication itself becomes less efficient while teleworking, and it has been reported to be failing when extensive meetings are required as part of work tasks (Sharit and Czaja, 2009). Fourth, unreliable internet connections can hinder communication efficiency. As telework is heavily dependent on technology, slow network connections add overhead to the communication process (Lewis, 2013). Further, as organizations worldwide shift to telework, more congestion in the network can be expected, which will make effective communication more difficult.

All the factors discussed here are expected to directly affect employees' autonomy as communication inefficiency can affect the perceived autonomy of employees at the

workplace (Brunetto and Farr-Wharton, 2004). Hence our second hypothesis is as follows:

H2: Communication satisfaction will be positively related to the perceived autonomy of employees.

Perceived web security. Accessibility to confidential data and concerns over sharing organizational information over the internet is another challenge of telework. Secure access to proprietary technology is not available, and security is always a concern even when it is available. (Pinsonneault and Boisvert, 2001). Access to specific resources or data sources is often location-based, which is difficult to acquire over telework. Even when secure channels are available, a failure in these channels is always possible, limiting the employees' control over access to resources, which forms the basis of our third hypothesis:

H3: Perceived web security will be positively related to the perceived autonomy of employees.

2.3 Autonomy Support and Work monotonicity

An employee functions in a very different environment from their usual workspace while teleworking. We posit that this change in the environment affects the employee's motivation towards the work, and we use autonomy to analyze the effect of this change. Autonomy is one of the basic needs at the workplace and has been found to affect employee productivity, creativity, and engagement levels (Naotunna and Zhou, 2018; Johannsen and Zak, 2020; Malinowska et al., 2018). Organizations perceive a loss of control over employees who are teleworking (Quoquab and Malik 2013) and try to regain this control through additional monitoring and reporting mechanisms, which further reduces autonomy support.

Traditionally, telework is expected to increase employee's autonomy as the teleworkers are not in the direct supervision of their managers and supervisors, and are expected to gain a sense of increased freedom over their work tasks (Nakrošienė et al., 2019). However, other research initiatives have shown that this is not always the case. As argued by Sewell and Taskin (2015), even when managers are not present physically with teleworkers, they leverage technology to maintain the control and monitoring of employees on the same level as when the employees are under direct supervision. Also, employees who have a well-developed sense of self-determination at work are likely to perceive telework as a loss of autonomy. The context of this study is expected to have a similar effect on employees. As the change towards the telework was sudden and on a much larger scale, many employees will experience this loss of autonomy as a result of the challenges discussed earlier.

A lack of autonomy can cause workers to experience monotonicity and routineness (Loukidou et al., 2009). Employees tend to become passive and less creative as autonomy in the workplace decreases.

H4: Perceived fulfilment of autonomy will have a negative relation with work monotonicity.

2.4 Work monotonicity and Employee Engagement

Work monotonicity has been indirectly associated with telework in the literature. Telework results in social isolation, lack of career opportunities, and depression, leading to work monotonicity (Tavares, 2017). As the employees are away from the workplace, their inability to control and affect work content and practices often limit their engagement with work. Loneliness and worry are side-effects of separation from workspace, which can further add to the routineness of the work (Mann and Holdsworth, 2003).

Activated employees are engaged more towards work than employees who find their work monotonous or boring (Schaufeli and Salanova, 2007). Soane et al. (2012) list three types of engagements at workplace - intellectual, social, and affective engagement. Authors defined intellectual engagement as ‘the extent to which one is intellectually absorbed in work’, social engagement as ‘the extent to which one is socially connected with the working environment and shares common values with colleagues,’ and affective engagement as ‘the extent to which one experiences a state of positive affect relating to one’s work role.’ Each type reflects a different aspect of engagement, and work monotonicity can affect each one differently. We explore the effect of work monotonicity on all three types of engagement.

H5a: Work monotonicity will have a negative relation with intellectual engagement.

H5b: Work monotonicity will have a negative relation with social engagement.

H5c: Work monotonicity will have a negative relation with affective engagement.

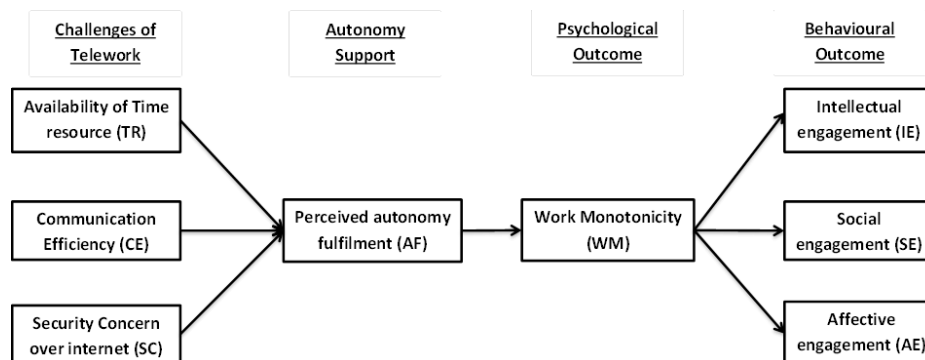


Fig. 1: Research Model

3 Research Methods

3.1 Sample and data collection

To collect data for our study, we emailed our survey to a total of 800 managers across several industries. The email detailed the purpose of the study and the participants had the option to remain anonymous or provide their email ID for further correspondence

to discuss the topic if necessary. We received 269 responses, of which 231 were usable, which provides an effective return rate of 28.97%. All the respondents are currently managing teleworking teams. A total of 92 participants choose to remain anonymous, while 139 participants provided their email for further correspondence. The participants consisted of 202 males and 29 females. The age of 13 participants was in the range of 20-30 years, 140 were in the range of 30-40 years, 76 were in the range of 40-50 years, and 2 were above 50 years. The number of people that they interacted with via telework daily was in the range 5-10 for 69 participants, 10-20 for 94 participants, 20-50 for 64 participants, and more than 50 for 4 participants. The functional areas that the participants worked in covered marketing, sales, support, research and development, information technology, business management, product management, human resources, and operations. Most of the participants were leading employees from multiple functional areas. The industries covered included software and IT, e-commerce, healthcare, education, banking, telecommunications, retail, FMCG, and media organizations.

The questionnaires were prepared to measure the perceived challenges that emerged due to the sudden large scale implantation of teleworking practice and their psychological and behavioral effects on five-point scales (1 = 'strongly disagree' to 5 = 'strongly agree'). These questionnaires were prepared from previous studies, which have been detailed in the next sections.

3.2 Variable measurement

Here we discuss in brief the instruments used to measure the latent constructs in our study.

Employee Engagement. Employee engagement is the dependent variable in our study and is measured through the ISA Engagement scale developed by Soane et al. (2012). The ISA engagement scale measures the intellectual (IE), social (SE), and affective (AE) engagement of employees. The scale consists of nine items, where three items represent each of the sub-constructs.

Time Resource (TR). Time resource is used as an independent variable in our study. To measure the availability of time as a resource, we use the scale provided by Rowland et al. (1985). This scale is used to measure the 'perceived adequacy of time resources' as mentioned by the authors and contains three items.

Security concerns over internet (SC). Perceived security concerns over the internet while teleworking is another independent variable that we used to measure the perceived challenges of telework. We adapted from the scale presented by Salisbury et al. (2001). The scale measured the perceived comfort of using the internet to communicate and exchange work-related information.

Communication Efficiency (CE). To measure the perceived challenges in communication, scales have been adapted from Yen and Tu (2008) and Steele and Plenty (2015). The questions used in the scale measure the efficiency of virtual communication with colleagues and supervisors while teleworking.

Perceived autonomy fulfilment (AF). We adapted the scale to measure the autonomy from Jang et al. (2009) and Sheldon et al. (2001). The scale measures the basic need satisfaction for autonomy in employees.

Work monotonicity (WM). To measure the psychological outcome in our framework, we measure the subjective monotonicity of the work. We adapt from the scale used by Melamed et al. (1995).

Control variables. For control variables, we measure age, gender, total work experience. We also control for the prior experience for telework experience as this can affect the perceived effect of the challenges faced by telework. Any previous knowledge in handling the effects of the challenges is controlled through this items. Further, we controlled for the number of people that the participants interact with daily. The effect of challenges on employees that telework present may differ depending on the number of people that the employees interact with as the communications will get more complicated. This can also affect the time management of employees. We control for these effects through this item.

3.3 Validity and reliability of measures

To measure the internal consistency of the constructs, we calculated the Cronbach's alpha for each of the constructs, which are listed in Table 1. As we can see from the table, all the constructs have accepted reliability levels, donated by Cronbach's alpha of more than 0.70 (Nunnally, 1994). We use R to calculate the Cronbach's alpha of the constructs.

Table 1. Squared correlations, average variance explained, composite reliability and Cronbach's alpha

	CR	AVE	SC	WM	IE	SE	AE	TR	CE	AF	α
SC	0.85	0.65	0.81								0.84
WM	0.74	0.50	-0.20	0.71							0.77
IE	0.86	0.67	0.27	-0.37	0.82						0.86
SE	0.88	0.71	0.30	-0.52	0.85	0.84					0.88
AE	0.82	0.60	0.28	-0.24	0.53	0.50	0.78				0.82
TR	0.77	0.53	0.09	-0.25	0.33	0.42	0.23	0.73			0.77
CE	0.75	0.50	0.74	-0.42	0.52	0.55	0.38	0.26	0.71		0.75
AF	0.74	0.50	0.25	-0.35	0.52	0.51	0.37	0.48	0.46	0.71	0.72

To measure the validity of the constructs, we used confirmatory factor analysis (CFA) technique using AMOS software. After the initial analysis, some of the items were dropped as they were loading poorly to the underlying constructs. The new model with dropped items was analyzed again, and the resulting model had an acceptable fit. The $\chi^2/d.f.$ value of the used model is 1.430; CFI is 0.96; IFI is 0.96; GFI is 0.90; and RMSEA is 0.04, which represents good model fit indices. Next, the convergent validity and discriminant validity of the model was tested, and the resulting

model indices are listed in Table 1. Convergent validity of all the variables is within the acceptable range, while divergent validity for intellectual engagement and social engagement lies on the boundary acceptable range. This is presumably due to the measurement of engagement by both the variables.

4 Results and Discussion

4.1 Test of hypotheses

To test the hypotheses, we again used the AMOS software to carry out the path analysis. The base model was tested using the independent variables, mediators, and the control variables. Figure 2 describes the result of the analysis with the effect sizes of the path analysis. The fit indices for the analysis are $\chi^2/d.f. = 1.62$; CFI = 0.94; TLI = 0.93; IFI = 0.94; RMSEA = 0.05.

The results prove our hypothesis H2, H3, H4, H5a, H5b, and H5c at significance level $p < 0.001$. H1 is found to be insignificant in our analysis. The effect size for the effect of communication issues on autonomy is 0.82, and the availability of time resources on autonomy is 0.32. The coefficient of the effect of autonomy on work monotonicity is -0.85. For engagement, work monotonicity effects intellectual, social, and affective engagement at -0.88, -0.94, and -0.56 level of magnitudes. For control variables, only Age has a positive coefficient at $p < 0.05$ level of significance for intellectual engagement and affective engagement.

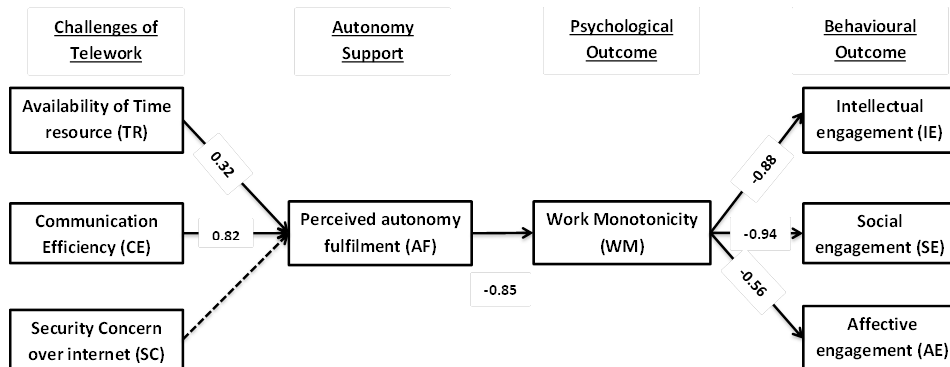


Figure 2: Path analysis results (significant at 0.001 level) - standardized coefficients

4.2 Discussion

The result obtained in the path analysis provides several important points for discussions. First, we find that the time availability of resources and communication efficiency has a direct effect on employees' autonomy. When the time as a resource is not available to teleworkers or communication becomes challenging, the perceived autonomy of the teleworkers decreases. Greer and Payne (2014) use the boundary theory

to explain the effect of telework on time-related challenges. They argue that employees have a psychological separation between time spent working and at home which they cross while traveling between work and home. However, while teleworking, these boundaries overlap and are broken down into parts throughout the day, affecting work coordination. The official working hours are not clearly defined while teleworking, and employees increasingly start working in the evenings or on the weekends (Steward, 2000).

Second, the effect of communication efficiency is very significant in the fulfillment of autonomy for employees as seen from the results. This can help resolve the conflict in the literature, wherein the autonomy of teleworkers was found to be increased in some cases, while negative in others. We can postulate further from here, that when communication is efficient between teleworkers, the autonomy is positively supported. Communication issues force organizations to introduce initiatives that promote the exchange of information between coworkers and supervisors as lack of communication can lead to isolation and decreased organizational commitment (de Vries et al., 2019). These involve steps like more reports and more calls with managers. The attempt to gain more control by the organization creates a loss of autonomy for the teleworkers. More reporting emails and tracking introduced by firms to track employee productivity further fuels this loss of autonomy (Gagné and Deci, 2005).

Third, as hypothesized, a decrease in the perceived autonomy of teleworkers will significantly impact work attitude. Work monotonicity increases as autonomy decreases. Lack of perceived control by the organizations and the lack of autonomy by the employees create a sense of organizational distrust (van Hoorn, 2018). A similar pattern can be observed in the results obtained by this study. Employees with a higher need for autonomy feel frustrated when subjected to this loss of control (Mekler et al., 2017). Negative Psychological outcome is a result of these phenomena (Deci and Ryan, 2014), which was measured in the form of work monotonicity in our study. Increasing flexibility and freedom from superiors through less micromanagement can help the employee's need for autonomy fulfillment. One of the strategies to regain autonomy is to reinforce routines by employees. This lessens their loss of control over the scenario and reinforces their sense of autonomy. Additionally, increasing their perceived competence can also reinforce autonomy (Radel, Pelletier, and Sarrazin, 2013). Finally, work monotonicity has a significant impact on all types of work engagement – intellectual, social, and affective.

5 Conclusion and Implications

Telework is expected to be more prevalent in future workplace designs. The effectiveness of teleworking is dependent on the current technologies and needs to be revisited periodically. Certain events (such as the recent pandemic outbreak) forced organizations to implement mandatory teleworking policies. Challenges that emerged from these implementations and their effects on employee engagement have been studied in this article. We believe that the insights that the paper provides have implications for the future design of telework.

In this paper, we have explored the challenges faced by teleworkers under mandatory organizational policies. The results not only bring out some of the traditional teleworking challenges, such as inefficient communication and collaboration issues, but also shed light on its effect on employee engagement. Further, we investigated the mediating effect of change in autonomy support and the psychological challenges that emerge from this shift.

Managerial and policy implications. The results have implications for designing organizational policies and transformations to move towards a large-scale implementation of teleworking. It provides the focus areas for managing employee engagement in terms of the challenges explored in the study.

Further, the results presented here have implications for understanding the interplay of autonomy while teleworking. Efficient communication management can help organizations provide the necessary fulfillment of autonomy for employees, which form one of the basic needs of the workplace.

Limitations and future research. While the study provides relevant and interesting findings for understanding the effect of large scale telework on employees, more research is needed to understand the complete picture. As the next step in this research initiative, we plan to interview the participants of our study and dive deeper into the issues that have been reported in our study. This will help us understand the relation between them in more depth.

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